

EX04-072 patentin.txt
SEQUENCE LISTING

<110> EXELIXIS, INC.

<120> PLKS AS MODIFIERS OF THE BETA CATENIN PATHWAY AND METHODS OF USE

<130> EX04-072C-PC

<150> US 60/524,587

<151> 2003-11-24

<160> 6

<170> PatentIn version 3.2

<210> 1

<211> 3331

<212> DNA

<213> Homo sapiens

<400> 1

cagagggcac cgcccaggcc tcggaaggtg tcagggagaa ctttccgtgg tttcagcgtc	60
gtcgccctgga gcggcggttt agagagccga gcctgatggg cgccaaggcc ggctggctgc	120
ttggagcgct gcctcgaagg gactgcgtaa ggaagctaata ccggagaacc caggccagag	180
cctgaaatat ggcgacctgc atcggggaga agatcgagga ttttaaagtt ggaaatctgc	240
ttggtaaagg atcatattgct ggtgtctaca gagctgagtc cattcacagt ggtttggaag	300
ttgcaatcaa aatgatagat aagaaagcca tgtacaaagc aggaatggta cagagagtcc	360
aaaatgaggt gaaaatacat tgccaattga aacatccttc tatcttggag ctttataact	420
attttgaaga tagcaattat gtgtatcttg tattagaaat gtgccataat ggagaaatga	480
acaggtatct aaagaataga gtgaaaccct tctcagaaaa tgaagctcga cacttcatgc	540
accagatcat cacagggatg ttgtatcttc atttctatgg tatactacac cgggacctca	600
cactttctaa cctcctactg actcgtata tgaacatcaa gattgctgat ttggggctgg	660
caactcaact gaaaatgcc catgaaaagc actatacatt atgtggaact cctaactaca	720
tttcaccaga aattgccact cgaagtgcac atggccttga atctgatgtt tggccctgg	780
gctgtatgtt ttatacatta cttatcgga gaccaccctt cgacactgac acagtcaaga	840
acacattaaa taaagtagta ttggcagatt atgaaatgcc aacttttttg tcaatagagg	900
ccaaggacct tattcaccag ttacttcgta gaaatccagc agatcgttta agtctgtctt	960
cagtattgga ccatcctttt atgtcccgaa attcttcaac aaaaagtaaa gatttaggaa	1020
ctgtggaaga ctcaattgat agtgggcatg ccacaatttc tactgcaatt acagcttctt	1080
ccagtaccag tataagtggg agttttatttg acaaaagaag acttttgatt ggtcagccac	1140
tcccaaataa aatgactgta ttccaaaga ataaaagttc aactgatttt tcttcttcag	1200
gagatggaaa cagtttttat actcagtggg gaaatcaaga aaccagtaat agtggaaggg	1260
gaagagtaat tcaagatgca gaagaaaggc cacattctcg ataccttcgt agagcttatt	1320
cctctgatag atctggcact tctaataagc agtctcaagc aaaaacatat acaatggaac	1380
gatgtcactc agcagaaatg ctttcagtgt ccaaaagatc aggaggaggt gaaaatgaag	1440

EX04-072 patentin.txt

agaggtactc acccacagac aacaatgcca acatttttaa cttcttttaa gaaaagacat 1500
ccagtagttc tggatctttt gaaagacctg ataacaatca agcactctcc aatcatcttt 1560
gtccaggaaa aactcctttt ccatttgagc acccgacacc tcagactgaa accgtacaac 1620
agtggtttgg gaactctgca ataaatgctc atttaagaaa aactactgaa tatgacagca 1680
tcagcccaaa ccgggacttc cagggccatc cagatttgca gaaggacaca tcaaaaaatg 1740
cctggactga tacaaaagtc aaaaagaact ctgatgcttc tgataatgca cattctgtaa 1800
aacagcaaaa taccatgaaa tatatgactg cacttcacag taaacctgag ataatccaac 1860
aagaatgtgt ttttggtcga gatcctcttt ctgaacagag caagactagg ggtatggagc 1920
caccatgggg ttatcagaat cgtacattaa gaagcattac atctccgttg gttgctcaca 1980
ggttaaaacc aatcagacag aaaacaaaa aggctgtggt gagcatactt gattcagagg 2040
agggtgtgtg ggagcttgta aaggagtatg catctcaaga atatgtgaaa gaagttcttc 2100
agatatctag tgatggaaat acgatcacta tttattatcc aaatggtggt agaggttttc 2160
ctcttgctga tagaccaccc tcacctactg acaacatcag taggtacagc tttgacaatt 2220
taccagaaaa atactggcga aaatatcaat atgcttcag gttgttacag cttctaagat 2280
ctaaatctcc caaaatcact tattttacaa gatatgctaa atgcattttg atggagaatt 2340
ctcctggtgc tgattttgag gtttggtttt atgatggggt aaaaatacac aaaacagaag 2400
atttcattca ggtgattgaa aagacaggga agtcttacac tttaaaaagt gaaagtgaag 2460
ttaatagctt gaaagaggag ataaaaatgt atatggacca tgctaagag ggtcatcgta 2520
tttgttttagc actggaatcc ataatttcag aagaggaaaag gaaaactagg agtgctccct 2580
ttttcccaat aatcatagga agaaaacctg gtagtactag ttcacctag gccttatcac 2640
ctcctccttc tgtggattca aattaccaa cgagagatag agcatctttc aacagaatgg 2700
tcatgcatag tgatgcttct ccaacacagg caccaatcct taatccctct atgggtacaa 2760
atgaaggact tggctttaca actacagctt ctggaacaga catctcttct aatagtctaa 2820
aagattgtct tcctaaatca gcacaacttt tgaaatctgt ttttgtgaaa aatgttggtt 2880
gggctacaca gttaactagt ggagctgtgt gggttcagtt taatgatggg tcccagttgg 2940
ttgtgcaggc aggagtgtct tctatcagtt atacctcacc aaatggtcaa acaactaggt 3000
atggagaaaa tgaaaaatta ccagactaca tcaaacagaa attacagtgt ctgtcttcca 3060
tccttttgat gttttcta atccgactccta attttcattg attaaaactc ctttcagaca 3120
tataagttta ataaataact tttttgttga ctttcaagta aagtgatttt ttttaattta 3180
acataaagtc ttcagaaagc ctttctatga aagaatttta acctataatg taaaccatgt 3240
atctgagata acaaagcaga atgaaacttg agtcacttac taaatatagt ggatataaaa 3300
tagaacacct gactttgctc ttagaccata a 3331

<210> 2
<211> 3092

EX04-072 patentin.txt

<212> DNA

<213> Homo sapiens

<400> 2

tttcagcgtc gtcgcctgga gcggcggttt agagaaccga gcctgatggg cgccaaggcc	60
ggctggctgc ttggagcgct gcctcgaagg gcctgcgtga aggaagctaa tccggagaac	120
ccaggccaga gcctggaaat atggcgacct gcctcgggga gaagatcgag gattttaaag	180
ttggaaatct gcttggtaaa ggatcatttg ctggtgtcta cagagctgag tccattcaca	240
ctggttttga agttgcaatc aaaatgatag ataagaaagc catgtacaaa gcaggaatgg	300
tacagagagt caaaaatgag gtgaaaatac attgccattt gaaacatcct tctatcttgg	360
agcttttata ctattttgaa gatagcaatt atgtgtatct ggtattagaa atgtgccata	420
atggagaaat gaacaggatc cttaaagaata gaggtaaacc cttctcagaa aatgaagctc	480
gacacttcat gcaccagatc atcacaggga tgttgtatct tcattctcat ggtatactac	540
accgggacct cacactttct aacctcctac tgactcgtaa tatgaacatc aagattgctg	600
attttgggct ggcaactcaa ctgaaaatgc cacatgaaaa gcactataca ttatgtggaa	660
ctcctaacta catttcacca gaaattgcc ctcgaagtgc acatggcctt gaatctgatg	720
tttgggtccct gggctgtatg ttttatacat tacttatcgg gagaccaccc ttcgacactg	780
acacagtcaa gaacacatta aataaagtag tattggcaga ttatgaaatg ccaacttttt	840
tgtcaataga ggccaaggac cttattccacc agttacttcg tagaaatcca gcagatcggt	900
taagtctgtc ttcagtattg gaccatcctt ttatgtcccc aaattcttca acaaaaagta	960
aagatttagg aactgtggaa gactcaattg atagtgggca tgccacaatt tctactgcaa	1020
ttacagcttc ttccagtacc agtataagtg gtagttttatt tgacaaaaga agacttttga	1080
ttggtcagcc actcccaaat aaaatgactg tattttccaaa gaataaaagt tcaactgatt	1140
tttcttcttc aggagatgga aacagttttt atactcagtg gggaaatcaa gaaaccagta	1200
atagtggaag gggaagagta attcaagatg cagaagaaag gccacattct cgataccttc	1260
gtagagctta ttcctctgat agatctggca cttctaatag tcagtctcaa gcaaaaacat	1320
atacaatgga acgatgtcac tcagcagaaa tgctttcagt gtccaaaaga tcaggaggag	1380
gtgaaaatga agagaggtac tcacccacag acaacaatgc caacattttt aacttcttta	1440
aagaaaagac atccagtagt tctggatctt ttgaaagacc tgataacaat caagcactct	1500
ccaatcatct ttgtccagga aaaactcctt ttccatttgc agacccgaca cctcagactg	1560
aaaccgtaca acagtgggtt gggaatctgc aaataaatgc tcatttaaga aaaactactg	1620
aatatgacag catcagccca aaccgggact tccagggccca tccagatttg cagaaggaca	1680
catcaaaaaa tgcctggact gatacaaaag tcaaaaagaa ctctgatgct tctgataatg	1740
cacattctgt aaaacagcaa aataccatga aatatatgac tgcacttcac agtaaacctg	1800
agataatcca acaagaatgt gtttttggct cagatcctct ttctgaacag agcaagacta	1860
ggggtatgga gccaccatgg gggtatcaga atcgtacatt aagaagcatt acatctccgt	1920

EX04-072 patentin.txt

tggttgctca	cagggttaaaa	ccaatcagac	agaaaaccaa	aaaggctgtg	gtgagcatac	1980
ttgattcaga	ggagggtgtgt	gtggagcttg	taaaggagta	tgcattctca	gaatatgtga	2040
aagaagttct	tcagatatct	agtgatggaa	atacgatcac	tattttattat	ccaaatggtg	2100
gtagagggtt	tcctcttgct	gatagaccac	cctcacctac	tgacaacatc	agtaggtaca	2160
gctttgacaa	tttaccagaa	aaatactggc	gaaaatatca	atatgcttcc	aggtttgtac	2220
agcttgtaag	atctaaatct	cccaaatca	cttattttac	aagatatgct	aaatgcattt	2280
tgatggagaa	ttctcctggg	gctgattttg	aggtttggtt	ttatgatggg	gtaaaaatac	2340
acaaaacaga	agatttcatt	cagggtgattg	aaaagacagg	gaagtcttac	actttaaaaa	2400
gtgaaagtga	agttaatagc	ttgaaagagg	agataaaaaat	gtttatggac	catgctaattg	2460
agggtcatcg	tatttgttta	gcactggaat	ccataatttc	agaagaggaa	aggaaaacta	2520
ggagtgtctc	ctttttccca	ataatcatag	gaagaaaacc	aggtagtact	agttcaccta	2580
aggccttatc	acctcctcct	tctgtggatt	caaattaccc	aacgagagat	agagcatctt	2640
tcaacagaat	ggcatgcat	agtgtgtgct	ctccaacaca	ggcaccaatc	cttaatccct	2700
ctatggttac	aaatgaagga	cttgggtctta	caactacagc	ttctggaaca	gacatctctt	2760
ctaatagtct	aaaagattgt	cttcctaaat	cagcacaact	tttgaaatct	gtttttgtga	2820
aaaatgttgg	ttgggctaca	cagttaacta	gtggagctgt	gtgggttcag	tttaatgatg	2880
gggtcccagt	ggttgtgcag	gcaggagtgt	cttctatcag	ttatacctca	ccaaatggtc	2940
aaacaactag	gtatggagaa	aatgaaaaat	taccagacta	catcaaacag	aaattacagt	3000
gtctgtcttc	catccttttg	atgttttcta	atccgactcc	taattttcat	tgattaaaac	3060
tcctttcaga	catataagtt	taataaataa	ct			3092

<210> 3
 <211> 3092
 <212> DNA
 <213> Homo sapiens

<400> 3	tttcagcgtc	gtcgcctgga	gcggcggttt	agagagccga	gcctgatggg	cgccaaggcc	60
	ggctggctgc	ttggagcgct	gcctcgaagg	gactgcgtga	aggaagctaa	tccggagaac	120
	ccaggccaga	gcctggaaat	atggcgacct	gcatcgggga	gaagatcgag	gattttaaag	180
	ttggaaatct	gcttggtaaa	ggatcatttg	ctggtgtcta	cagagctgag	tccattcaca	240
	ctggtttgga	agttgcaatc	aaaatgatag	ataagaaagc	catgtacaaa	gcaggaatgg	300
	tacagagagt	ccaaaatgag	gtgaaaatac	attgccaaat	gaaacatcct	tctatcttgg	360
	agctttataa	ctattttgaa	gatagcaatt	atgtgtatct	ggtagtagaa	atgtgccata	420
	atggagaaat	gaacaggtat	ctaaagaata	gagtgaacc	cttctcagaa	aatgaagctc	480
	gacacttcat	gcaccagatc	atcacaggga	tgttgtatct	tcattctcat	ggtatactac	540
	accgggacct	cacactttct	aacctcctac	tgactcgtaa	tatgaacatc	aagattgctg	600
	attttgggct	ggcaactcaa	ctgaaaatgc	cacatgaaaa	gcactataca	ttatgtggaa	660

EX04-072 patentin.txt

ctcctaacta catttcacca gaaattgcc a ctcgaagtgc acatggcctt gaatctgatg	720
tttgggtccct gggctgtatg ttttatacat tactttatcgg gagaccaccc ttcgacactg	780
acacagtcaa gaacacatta aataaagtag tattggcaga ttatgaaatg ccatcttttt	840
tgtcaataga ggccaaggac cttatttcacc agttacttcg tagaaatcca gcagatcggt	900
taagtctgtc ttcagtattg gaccatcctt ttatgtcccg aaattcttca acaaaaagta	960
aagatttagg aactgtggaa gactcaattg atagtgggca tgccacaatt tctactgcaa	1020
ttacagcttc ttccagtacc agtataagtg gtagttttatt tgacaaaaga agacttttga	1080
ttgggtcagcc actcccaaat aaaatgactg tattttccaaa gaataaaaagt tcaactgatt	1140
tttcttcttc aggagatgga aacagttttt atactcagtg gggaaatcaa gaaaccagta	1200
atagtggaa ggggaagagta attcaagatg cagaagaaa gccacattct cgataccttc	1260
gtagagctta ttcctctgat agatctggca cttctaatag tcagtctcaa gcaaaaacat	1320
atacaatgga acgatgtcac tcagcagaaa tgctttcagt gtccaaaaga tcaggaggag	1380
gtgaaaatga agagaggtac tcaccacacag acaacaatgc caacattttt aacttcttta	1440
aagaaaagac atccagtagt tctggatctt ttgaaagacc tgataacaat caagcactct	1500
ccaatcatct ttgtccagga aaaactcctt ttccatttgc agacccgaca cctcagactg	1560
aaaccgtaca acagtggttt gggaatctgc aaataaatgc tcatttaaga aaaactactg	1620
aatatgacag catcagccca aaccgggact tccagggcca tccagatttg cagaaggaca	1680
catcaaaaaa tgcctggact gatacaaaag tcaaaaagaa ctctgatgct tctgataatg	1740
cacattctgt aaaacagcaa aataccatga aatatatgac tgcacttcac agtaaacctg	1800
agataatcca acaagaatgt gtttttggct cagatcctct ttctgaacag agcaagacta	1860
gggggtatgga gccaccatgg ggttatcaga atcgtacatt aagaagcatt acatctccgt	1920
tggttgctca caggttaaaa ccaatcagac agaaaaccaa aaaggctgtg gtgagcatac	1980
ttgattcaga ggaggtgtgt gtggagcttg taaaggagta tgcattctca gaatatgtga	2040
aagaagttct tcagatatct agtgatggaa atacgatcac tattttattat ccaaatggtg	2100
gtagaggttt tcctcttgct gatagaccac cctcacctac tgacaacatc agtaggtaca	2160
gctttgacaa tttaccagaa aaatactggc gaaaatatca atatgcttcc aggtttgtac	2220
agcttgtaag atctaaatct cccaaaatca cttattttac aagatatgct aaatgcattt	2280
tgatggagaa ttctcctggt gctgattttg aggtttgggt ttatgatggg gtaaaaatac	2340
acaaaacaga agatttcatt caggtgattg aaaagacagg gaagtcttac actttaaaaa	2400
gtgaaagtga agttaatagc ttgaaagagg agataaaaat gtatatggac catgctaata	2460
agggtcatcg tatttgttta gacttggaat ccataatttc agaagaggaa aggaaaacta	2520
ggagtgtctc ctttttccca ataatacatg gaagaaaacc tggtagtact agttcaccta	2580
aggccttatc acctcctcct tctgtggatt caaattaccc aacgagagag agagcatctt	2640
tcaacagaat ggtcatgcat agtgctgctt ctccaacaca ggcaccaatc cttaatccct	2700

EX04-072 patentin.txt

ctatggttac	aaatgaagga	cttgggtctta	caactacagc	ttctggaaca	gacatctctt	2760
ctaatagtct	aaaagattgt	cttcctaaat	cagcacaact	tttgaaatct	gtttttgtga	2820
aaaatgttgg	ttgggctaca	cagttaacta	gtggagctgt	gtgggttcag	tttaatgatg	2880
gggtccagtt	ggttgtgcag	gcaggagtgt	cttctatcag	ttataacctca	ccaaatggtc	2940
aaacaactag	gtatggagaa	aatgaaaaat	taccagacta	catcaaacag	aaattacagt	3000
gtctgtcttc	catccttttg	atgttttcta	atccgactcc	taattttcat	tgattaaaac	3060
tcctttcaga	catataagtt	taataaataa	ct			3092

<210> 4
 <211> 3331
 <212> DNA
 <213> Homo sapiens

<400> 4						
cagagggcac	cgcccaggcc	tcggaagggtg	tcagggagaa	ctttccgtgg	tttcagcgtc	60
gtcgccctgga	gcggcggttt	agagagccga	gcctgatggg	cgccaaggcc	ggctggctgc	120
ttggagcgct	gcctcgaagg	gactgcgtaa	ggaagcta	ccggagaacc	caggccagag	180
cctgaaatat	ggcgacctgc	atcggggaga	agatcgagga	ttttaagtt	ggaaatctgc	240
ttggtaaagg	atcatttgct	gggtgtctaca	gagctgagtc	cattcacagt	ggtttggaag	300
ttgcaatcaa	aatgatagat	aagaaagcca	tgtacaaagc	aggaatggta	cagagagtcc	360
aaaatgaggt	gaaaatacat	tgccaattga	aacatccttc	tatcttgag	ctttataact	420
attttgaaga	tagcaattat	gtgtatcttg	tattagaaat	gtgccataat	ggagaaatga	480
acaggtatct	aaagaataga	gtgaaaccct	tctcagaaaa	tgaagctcga	cacttcatgc	540
accagatcat	cacagggatg	ttgtatcttc	attctcatgg	tatactacac	cgggacctca	600
cactttctaa	cctcctactg	actcgtaata	tgaacatcaa	gattgctgat	tttgggctgg	660
caactcaact	gaaaatgcc	catgaaaagc	actatacatt	atgtggaact	cctaactaca	720
tttcaccaga	aattgccact	cgaagtgcac	atggccttga	atctgatgtt	tgggtccctgg	780
gctgtatgtt	ttatacatta	cttatcggg	gaccaccctt	cgacactgac	acagtcaaga	840
acacattaaa	taaagtagta	ttggcagatt	atgaaatgcc	aacttttttg	tcaatagagg	900
ccaaggacct	tattcaccag	ttacttcgta	gaaatccagc	agatcgttta	agtctgtctt	960
cagtattgga	ccatcctttt	atgtcccgaa	attcttcaac	aaaaagtaaa	gatttaggaa	1020
ctgtggaaga	ctcaattgat	agtgggcatg	ccacaatttc	tactgcaatt	acagcttctt	1080
ccagtaccag	tataagtgg	agttttattg	acaaaagaag	acttttgatt	ggtcagccac	1140
tcccaaataa	aatgactgta	tttccaaaga	ataaaagttc	aactgatttt	tcttcttcag	1200
gagatggaaa	cagtttttat	actcagtggg	gaaatcaaga	aaccagtaat	agtggaaggg	1260
gaagagtaat	tcaagatgca	gaagaaaggc	cacattctcg	ataccttcgt	agagcttatt	1320
cctctgatag	atctggcact	tctaatagac	agtctcaagc	aaaaacatat	acaatggaac	1380

EX04-072 patentin.txt

gatgtcactc agcagaaatg ctttcagtgt ccaaaagatc aggaggaggt gaaaatgaag	1440
agagggtactc acccacagac aacaatgcc aacatttttaa cttcttttaa gaaaagacat	1500
ccagtagttc tggatctttt gaaagacctg ataacaatca agcactctcc aatcatcttt	1560
gtccaggaaa aactcctttt ccatttgcag acccgacacc tcagactgaa accgtacaac	1620
agtggtttgg gaatctgcaa ataaatgctc atttaagaaa aactactgaa tatgacagca	1680
tcagcccaaa ccgggacttc cagggccatc cagatttgc gaaggacaca tcaaaaaatg	1740
cctggactga taaaaagtc aaaaagaact ctgatgcttc tgataatgca cattctgtaa	1800
aacagcaaaa taccatgaaa tatatgactg cacttcacag taaacctgag ataatccaac	1860
aagaatgtgt ttttggctca gatcctcttt ctgaacagag caagactagg ggtatggagc	1920
caccatgggg ttatcagaat cgtacattaa gaagcattac atctccgttg gttgctcaca	1980
ggttaaaacc aatcagacag aaaacaaaa aggctgtggt gagcactatt gattcagagg	2040
agggtgtgtt ggagcttgta aaggagtatg catctcaaga atatgtgaaa gaagttcttc	2100
agatatctag tgatggaaat acgatcacta tttattatcc aaatggtggt agaggttttc	2160
ctcttgctga tagaccacc tcacctactg acaacatcag taggtacagc tttgacaatt	2220
taccagaaaa atactggcga aaatatcaat atgcttcag gtttgtagag cttctaagat	2280
ctaaatctcc caaaatcact tattttacaa gatatgctaa atgcattttg atggagaatt	2340
ctcctggtgc tgattttgag gtttggtttt atgatggggg aaaaatacac aaaacagaag	2400
atttcattca ggtgattgaa aagacaggga agtcttacac tttaaaaagt gaaagtgaag	2460
ttaatagctt gaaagaggag ataaaaatgt atatggacca tgctaattgag ggtcatcgta	2520
tttgtttagc actggaatcc ataatttcag aagaggaaaag gaaaactagg agtgctccct	2580
ttttcccaat aatcatagga agaaaacctg gtagtactag ttcacctag gccttatcac	2640
ctcctccttc tgtggattca aattacccaa cgagagatag agcatcttc aacagaatgg	2700
tcatgcatag tgatgcttct ccaacacagg caccaatcct taatccctct atggttacaa	2760
atgaaggact tggctttaca actacagctt ctggaacaga catctcttct aatagtctaa	2820
aagattgtct tcctaaatca gcacaacttt tgaaatctgt ttttgtagaa aatgttggtt	2880
gggctacaca gttaactagt ggagctgtgt gggttcagtt taatgatggg tcccagttgg	2940
ttgtgcaggc aggagtgtct tctatcagtt atacctcacc aaatgggtcaa acaactaggt	3000
atggagaaaa tgaaaaatta ccagactaca tcaaacagaa attacagtgt ctgtcttcca	3060
tccttttgat gttttcta atccgactccta attttcattg attaaaactc ctttcagaca	3120
tataagttta ataaataact tttttgttga ctttcaagta aagtgatttt ttttaattta	3180
acataaagtc ttcagaaagc ctttctatga aagaatttta acctataatg taaaccatgt	3240
atctgagata acaaagcaga atgaaacttg agtcacttac taaatatagt ggatataaaa	3300
tagaacacct gactttgctc ttagaccata a	3331

EX04-072 patentin.txt

<211> 3225
<212> DNA
<213> Homo sapiens

<400> 5
accaccagcc tagctcggac ggcaagcggc gggagatttt caaaatggga gcccagaggc 60
accgcccagg cctcgggaagg tgtcagggag aactttccgt ggtttcagcg tcgtcgcctg 120
gagcggcggg ttagagagcc gagcctgatg ggcgccaagg ccggctggct gcttggagcg 180
ctgcctcgaa gggactgcgt gaaggaagct aatccggaga acccaggcca gagcctggaa 240
atatggcgac ctgcatcggg gagaagatcg aggattttaa agttggaaat ctgcttggtg 300
aaggatcatt tgctggtgtc tacagagctg agtccattca cactggtttg gaagttgcaa 360
tcaaaatgat agataagaaa gccatgtaca aagcaggaat ggtacagaga gtccaaaatg 420
aggtgaaaat acattgccaa ttgaaacatc cttctatctt ggagctttat aactattttg 480
aagatagcaa ttatgtgtat ctggtattag aaatgtgcc aatggagaa atgaacaggt 540
atctaaagaa tagagtgaag cccttctcag aaaatgaagc tcgacacttc atgcaccaga 600
tcacacagg gatgttgtat cttcattctc atggtatact acaccgggac ctcacacttt 660
ctaacctcct actgactcgt aatatgaaca tcaagattgc tgattttggg ctggcaactc 720
aactgaaaat gccacatgaa aagcactata cattatgtgg aactcctaac tacatttcac 780
cagaaattgc cactcgaagt gcacatggcc ttgaatctga tgtttggtcc ctgggctgta 840
tgttttatac attacttata gggagaccac ctttcgacac tgacacagtc aagaacacat 900
taaataaagt agtattggca gattatgaaa tgccatcttt tttgtcaata gaggccaagg 960
accttattca ccagttactt cgtagaaatc cagcagatcg ttttaagtctg tcttcagtat 1020
tggaaccatcc ttttatgtcc cgaaattctt caacaaaaag taaagattta ggaactgtgg 1080
aagactcaat tgatagtggg catgccacaa tttctactgc aattacagct tcttcagta 1140
ccagtataag tggtagttta tttgacaaaa gaagactttt gattggtcag ccactcccaa 1200
ataaaatgac tgtattttca aagaataaaa gttcaactga tttttcttct tcaggagatg 1260
gaaacagttt ttatactcag tggggaaatc aagaaaccag taatagtgga aggggaagag 1320
taattcaaga tgcagaagaa aggccacatt ctcgatacct tcgtagagct tattcctctg 1380
atagatctgg cacttctaata agtcagtctc aagcaaaaac atatacaatg gaacgatgtc 1440
actcagcaga aatgctttca gtgtccaaaa gatcaggagg aggtgaaaat gaagagaggt 1500
actcaccac agacaacaat gccaacattt ttaacttctt taaagaaaag acatccagta 1560
gttctggatc ttttgaaaga cctgataaca atcaagcact ctccaatcat ctttgtccag 1620
gaaaaactcc ttttccattt gcagaccgga cacctcagac tgaaaccgta caacagtggg 1680
ttgggaatct gcaataaat gctcatttaa gaaaaactac tgaatatgac agcatcagcc 1740
caaaccggga cttccagggc catccagatt tgcagaagga cacatcaaaa aatgcctgga 1800
ctgatacaaa agtcaaaaag aactctgatg cttctgataa tgcacattct gtaaaacagc 1860
aaaataccat gaaatatatg actgcacttc acagtaaacc tgagataatc caacaagaat 1920

EX04-072 patentin.txt

```

gtgttttttg ctcagatcct ctttctgaac agagcaagac taggggtatg gagccaccat 1980
ggggttatca gaatcgtaca ttaagaagca ttacatctcc gttggttgct cacagggttaa 2040
aaccaatcag acagaaaacc aaaaaggctg tggtagagcat acttgattca gaggagggtgt 2100
gtgtggagct tgtaaaggag tatgcatctc aagaatatgt gaaagaagtt cttcagatat 2160
ctagtgatgg aaatacgatc actattttatt atccaaatgg tggtagaggt tttcctcttg 2220
ctgatagacc accctcacct actgacaaca tcagtaggta cagctttgac aatttaccag 2280
aaaaaactg gcgaaaatat caatatgctt ccaggtttgt acagcttgta agatctaaat 2340
ctcccaaat cacttatttt acaagatatg ctaaatgcat tttgatggag aattctcctg 2400
gtgctgattt tgaggtttgg ttttatgatg gggtaaaaat acacaaaaca gaagatttca 2460
ttcagggtgat tgaaaagaca ggggaagtctt acactttaaa aagtgaaagt gaagttaata 2520
gcttgaaaga ggagataaaa atgtatatgg accatgctaa tgagggtcat cgtatttggt 2580
tagcactgga atccataatt tcagaagagg aaaggaaaac taggagtgtc ccctttttcc 2640
caataatcat aggaagaaaa cctggtagta ctagttcacc taaggcctta tcacctctc 2700
cttctgtgga ttcaaattac ccaacgagag agagagcatc tttcaacaga atggtcatgc 2760
atagtgtctc ttctccaaca caggcaccaa tccttaatcc ctctatgggtt acaaatgaag 2820
gacttggctt tacaactaca gcttctggaa cagacatctc ttctaatagt ctaaaagatt 2880
gtcttcctaa atcagcacia cttttgaaat ctgtttttgt gaaaaatgtt ggttgggcta 2940
cacagttaac tagtggagct gtgtgggttc agtttaatga tgggtcccag ttggttgctc 3000
aggcaggagt gtcttctatc agttatacct caccaaatgg tcaaacaact aggtatggag 3060
aaaatgaaaa attaccagac tacatcaaac agaaattaca gtgtctgtct tccatccttt 3120
tgatgttttc taatccgact cctaattttc attgattaaa actcctttca gacatataag 3180
ttaataaat aacttttttg ttgactttca aaaaaaaaaa aaaaa 3225

```

<210> 6
 <211> 970
 <212> PRT
 <213> Homo sapiens

<400> 6

Met Ala Thr Cys Ile Gly Glu Lys Ile Glu Asp Phe Lys Val Gly Asn
 1 5 10 15

Leu Leu Gly Lys Gly Ser Phe Ala Gly Val Tyr Arg Ala Glu Ser Ile
 20 25 30

His Ser Gly Leu Glu Val Ala Ile Lys Met Ile Asp Lys Lys Ala Met
 35 40 45

Tyr Lys Ala Gly Met Val Gln Arg Val Gln Asn Glu Val Lys Ile His
 50 55 60

EX04-072 patentin.txt

Cys Gln Leu Lys His Pro Ser Ile Leu Glu Leu Tyr Asn Tyr Phe Glu
 65 70 75 80
 Asp Ser Asn Tyr Val Tyr Leu Val Leu Glu Met Cys His Asn Gly Glu
 85 90 95
 Met Asn Arg Tyr Leu Lys Asn Arg Val Lys Pro Phe Ser Glu Asn Glu
 100 105 110
 Ala Arg His Phe Met His Gln Ile Ile Thr Gly Met Leu Tyr Leu His
 115 120 125
 Ser His Gly Ile Leu His Arg Asp Leu Thr Leu Ser Asn Leu Leu Leu
 130 135 140
 Thr Arg Asn Met Asn Ile Lys Ile Ala Asp Phe Gly Leu Ala Thr Gln
 145 150 155 160
 Leu Lys Met Pro His Glu Lys His Tyr Thr Leu Cys Gly Thr Pro Asn
 165 170 175
 Tyr Ile Ser Pro Glu Ile Ala Thr Arg Ser Ala His Gly Leu Glu Ser
 180 185 190
 Asp Val Trp Ser Leu Gly Cys Met Phe Tyr Thr Leu Leu Ile Gly Arg
 195 200 205
 Pro Pro Phe Asp Thr Asp Thr Val Lys Asn Thr Leu Asn Lys Val Val
 210 215 220
 Leu Ala Asp Tyr Glu Met Pro Thr Phe Leu Ser Ile Glu Ala Lys Asp
 225 230 235 240
 Leu Ile His Gln Leu Leu Arg Arg Asn Pro Ala Asp Arg Leu Ser Leu
 245 250 255
 Ser Ser Val Leu Asp His Pro Phe Met Ser Arg Asn Ser Ser Thr Lys
 260 265 270
 Ser Lys Asp Leu Gly Thr Val Glu Asp Ser Ile Asp Ser Gly His Ala
 275 280 285
 Thr Ile Ser Thr Ala Ile Thr Ala Ser Ser Ser Thr Ser Ile Ser Gly
 290 295 300
 Ser Leu Phe Asp Lys Arg Arg Leu Leu Ile Gly Gln Pro Leu Pro Asn
 305 310 315 320
 Lys Met Thr Val Phe Pro Lys Asn Lys Ser Ser Thr Asp Phe Ser Ser
 325 330 335

EX04-072 patentin.txt

Ser Gly Asp Gly Asn Ser Phe Tyr Thr Gln Trp Gly Asn Gln Glu Thr
 340 345 350
 Ser Asn Ser Gly Arg Gly Arg Val Ile Gln Asp Ala Glu Glu Arg Pro
 355 360 365
 His Ser Arg Tyr Leu Arg Arg Ala Tyr Ser Ser Asp Arg Ser Gly Thr
 370 375 380
 Ser Asn Arg Gln Ser Gln Ala Lys Thr Tyr Thr Met Glu Arg Cys His
 385 390 395 400
 Ser Ala Glu Met Leu Ser Val Ser Lys Arg Ser Gly Gly Gly Glu Asn
 405 410 415
 Glu Glu Arg Tyr Ser Pro Thr Asp Asn Asn Ala Asn Ile Phe Asn Phe
 420 425 430
 Phe Lys Glu Lys Thr Ser Ser Ser Ser Gly Ser Phe Glu Arg Pro Asp
 435 440 445
 Asn Asn Gln Ala Leu Ser Asn His Leu Cys Pro Gly Lys Thr Pro Phe
 450 455 460
 Pro Phe Ala Asp Pro Thr Pro Gln Thr Glu Thr Val Gln Gln Trp Phe
 465 470 475 480
 Gly Asn Leu Gln Ile Asn Ala His Leu Arg Lys Thr Thr Glu Tyr Asp
 485 490 495
 Ser Ile Ser Pro Asn Arg Asp Phe Gln Gly His Pro Asp Leu Gln Lys
 500 505 510
 Asp Thr Ser Lys Asn Ala Trp Thr Asp Thr Lys Val Lys Lys Asn Ser
 515 520 525
 Asp Ala Ser Asp Asn Ala His Ser Val Lys Gln Gln Asn Thr Met Lys
 530 535 540
 Tyr Met Thr Ala Leu His Ser Lys Pro Glu Ile Ile Gln Gln Glu Cys
 545 550 555 560
 Val Phe Gly Ser Asp Pro Leu Ser Glu Gln Ser Lys Thr Arg Gly Met
 565 570 575
 Glu Pro Pro Trp Gly Tyr Gln Asn Arg Thr Leu Arg Ser Ile Thr Ser
 580 585 590
 Pro Leu Val Ala His Arg Leu Lys Pro Ile Arg Gln Lys Thr Lys Lys
 595 600 605

EX04-072 patentin.txt

Ala Val Val Ser Ile Leu Asp Ser Glu Glu Val Cys Val Glu Leu Val
 610 615 620
 Lys Glu Tyr Ala Ser Gln Glu Tyr Val Lys Glu Val Leu Gln Ile Ser
 625 630 635 640
 Ser Asp Gly Asn Thr Ile Thr Ile Tyr Tyr Pro Asn Gly Gly Arg Gly
 645 650 655
 Phe Pro Leu Ala Asp Arg Pro Pro Ser Pro Thr Asp Asn Ile Ser Arg
 660 665 670
 Tyr Ser Phe Asp Asn Leu Pro Glu Lys Tyr Trp Arg Lys Tyr Gln Tyr
 675 680 685
 Ala Ser Arg Phe Val Gln Leu Leu Arg Ser Lys Ser Pro Lys Ile Thr
 690 695 700
 Tyr Phe Thr Arg Tyr Ala Lys Cys Ile Leu Met Glu Asn Ser Pro Gly
 705 710 715 720
 Ala Asp Phe Glu Val Trp Phe Tyr Asp Gly Val Lys Ile His Lys Thr
 725 730 735
 Glu Asp Phe Ile Gln Val Ile Glu Lys Thr Gly Lys Ser Tyr Thr Leu
 740 745 750
 Lys Ser Glu Ser Glu Val Asn Ser Leu Lys Glu Glu Ile Lys Met Tyr
 755 760 765
 Met Asp His Ala Asn Glu Gly His Arg Ile Cys Leu Ala Leu Glu Ser
 770 775 780
 Ile Ile Ser Glu Glu Glu Arg Lys Thr Arg Ser Ala Pro Phe Phe Pro
 785 790 795 800
 Ile Ile Ile Gly Arg Lys Pro Gly Ser Thr Ser Ser Pro Lys Ala Leu
 805 810 815
 Ser Pro Pro Pro Ser Val Asp Ser Asn Tyr Pro Thr Arg Asp Arg Ala
 820 825 830
 Ser Phe Asn Arg Met Val Met His Ser Asp Ala Ser Pro Thr Gln Ala
 835 840 845
 Pro Ile Leu Asn Pro Ser Met Val Thr Asn Glu Gly Leu Gly Leu Thr
 850 855 860
 Thr Thr Ala Ser Gly Thr Asp Ile Ser Ser Asn Ser Leu Lys Asp Cys
 865 870 875 880

EX04-072 patentin.txt

Leu Pro Lys Ser Ala Gln Leu Leu Lys Ser Val Phe Val Lys Asn Val
885 890 895

Gly Trp Ala Thr Gln Leu Thr Ser Gly Ala Val Trp Val Gln Phe Asn
900 905 910

Asp Gly Ser Gln Leu Val Val Gln Ala Gly Val Ser Ser Ile Ser Tyr
915 920 925

Thr Ser Pro Asn Gly Gln Thr Thr Arg Tyr Gly Glu Asn Glu Lys Leu
930 935 940

Pro Asp Tyr Ile Lys Gln Lys Leu Gln Cys Leu Ser Ser Ile Leu Leu
945 950 955 960

Met Phe Ser Asn Pro Thr Pro Asn Phe His
965 970